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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,174	09/08/2000	Hiroki Ogata	SCEI 3.0-029	3464

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EXAMINER
COBURN, CORBETT B

ART UNIT	PAPER NUMBER
3714	

DATE MAILED: 02/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTOC (Rev. 07-01)

Office Action Summary	Application No. 09/658,174	Applicant(s) OGATA ET AL.	
	Examiner Corbett B. Coburn	Art Unit 3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15 and 17-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15 and 17-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 September 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *11* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Specification

1. Applicant's amendment has overcome the objection to the Abstract, which is hereby withdrawn.

Claim Rejections - 35 USC § 112

2. Applicant's amendments have overcome the rejections under 35 USC § 112, which are hereby withdrawn.

Claim Rejections - 35 USC § 102

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-15 & 17-42 are rejected under 35 U.S.C. 102(e) as being anticipated by DeVolpi (US Patent Number 6,067,005).

Claim 1: DeVolpi teaches a controller (12) that can be pushed. There is a detecting device (22, 24) for outputting an analog signal in response to the pressure applied to the controller. (Col 1, 15-20) There is an analog-to-digital that converts the analog signal into a bit stream and outputs it as a corresponding digital signal. (Col 3, 14-22) An analog-to-digital converter is a level-segmenting unit for segmenting the output level of the analog signal. Analog input forms a continuous curve; output from the analog-to-digital converter is in the form of a series of discrete steps or segments.

Claim 2: The detecting device (22, 24) is a pressure-sensitive device that is arranged at a position to which a pressure acting of the controller is transmitted to the detecting device. (Fig 1)

Claims 3, 18, 32, 38: There is an elastic conductive member (18) that moves with the controller (12). There is a resistor (22) disposed to come into and out of contact with the elastic conductive member. The resistor outputs the analog signal corresponding to the contact area with the conductive member. (Col 7, 38-43) There is an analog-to-digital that converts the analog signal into a bit stream and outputs it as a corresponding digital signal. (Col 3, 14-22) An analog-to-digital converter is a level-segmenting unit for segmenting the output level of the analog signal. Analog input forms a continuous curve; output from the analog-to-digital converter is in the form of a series of discrete steps or segments.

Claims 4, 19, 31, 33, 37, 39: DeVolpi teaches that an elastic conductive element (18) which is also a resistor moves with the controller (12) (Col 6, 36-37) and an conductive member (24) is disposed at a position where the conductive member is brought into and out of contact with the resistor and outputs the analog signal corresponding to the contact area with the conductive member. (Col 7, 38-43) There is an analog-to-digital that converts the analog signal into a bit stream and outputs it as a corresponding digital signal. (Col 3, 14-22) An analog-to-digital converter is a level-segmenting unit for segmenting the output level of the analog signal. Analog input forms a continuous curve; output from the analog-to-digital converter is in the form of a series of discrete steps or segments.

Claims 5, 20: The conductive member (18) is deformed and has a contact area with the resistor in accordance with the contact pressure with the resistor. (Col 7, 38-43)

Claims 6, 21: Fig 5 shows that each conductive member (28) has a peaked longitudinal-section surface.

Claims 7, 22: Fig 5 shows that conductive members (28), taken as a group, have an essentially trapezoidal longitudinal-section surface.

Claims 8, 23, 34, 40: The conductive member (18) has a cross-sectional area that decreases stepwise (i.e., gradually) toward a top portion that faces the resistor (22).

Claims 9, 24: The conductive element (18) shown in Fig 1 has a spherical surface that faces the resistor (22).

Claims 10, 25, 35, 41: The resistor (18) is formed in a shape that has a cross-sectional area that decreases stepwise (i.e., gradually) toward a top portion that faces the conductive member (24).

Claim 11, 26: Fig 5 shows each resistor (28) has a peaked longitudinal-section surface.

Claims 12, 27: Fig 5 shows resistors (28), taken as a group, have an essentially trapezoidal longitudinal-section surface.

Claims 13, 28: The resistive element (18) shown in Fig 1 has a spherical surface that faces the conductive surface (24).

Claims 14, 29: The resistor (18) has a cross-sectional area that decreases stepwise (i.e., gradually) toward a top portion that faces the resistor (24).

Claims 15, 30, 36, 42: The conductive member (18) is deformed in accordance with a contact pressure with the resistor (22) and the contact area between the resistor and conductive element is changed. The resistor (22) divides a contact region of the conductive member (18) and the contact area increases stepwise (i.e., gradually) as the

deformation increases. Fig 3 clearly shows that the resistor (22) has non-conductive regions (the spaces between the lines) such that the area of contact increases stepwise.

Response to Arguments

4. Applicant's arguments filed 9 December 2002 have been fully considered but they are not persuasive.

5. Applicant states that the independent claims, 1, 18 & 19 have been amended to require a level-segmenting unit. Applicant states the belief that this level-segmenting unit renders the invention patentable over the prior art, particularly DeVolpi. As pointed out above, DeVolpi discloses an analog-to-digital converter. An analog-to-digital converter is inherently a level-segmenting device.

6. Applicant states that all other amendments where made to improve the form of the claim. Thus no new limitations were added to the claims and the previous rejections hold.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Terajima et al. (JP 7-302159) teaches a similar device.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corbett B. Coburn whose telephone number is (703) 305-3319. The examiner can normally be reached on 8-5:30, Monday-Friday, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Hughes can be reached on (703) 308-1806. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

cbc
February 10, 2003

JESSICA HARRISON
PRIMARY EXAMINER